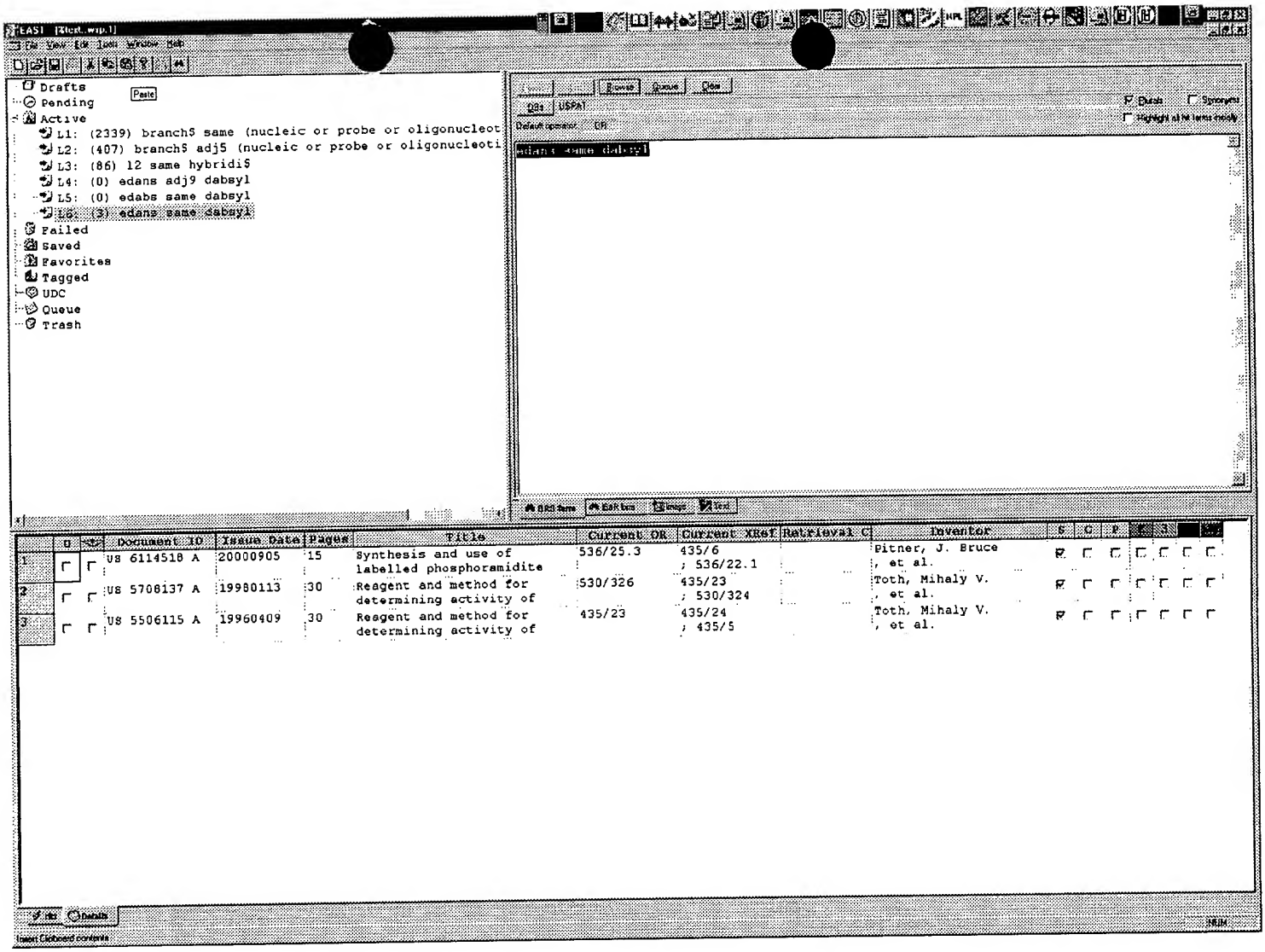
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Inventor
US 6114518 A
20000905
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Synthesis and use of labelled phosphoramidite
536/25.3
435/6 ; 536/22.1
Pitner, J. Bruce , et al.
US 5708137 A
19980113
30
Reagent and method for determining activity of
530/326
435/23 ; 530/324
Toth, Mihaly V. , et al.
US 5506115 A
19960409
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Reagent and method for determining activity of
435/23
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Toth, Mihaly V. , et al.
Details
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L3             15 DUP REM L2 (13 DUPLICATES REMOVED)

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L3   ANSWER 1 OF 15  MEDLINE                                  DUPLICATE 1
TI   Regulation of the rulAB mutagenic DNA repair operon of Pseudomonas
     syringae by UV-B (290 to 320 nanometers) radiation and analysis of
     rulAB-mediated mutability in vitro and in planta.

L3   ANSWER 2 OF 15  MEDLINE                                  DUPLICATE 2
TI   Synthesis and biological activity of alpha-methylene-gamma-lactones as
new
     aroma chemicals.

L3   ANSWER 3 OF 15  MEDLINE                                  DUPLICATE 3
TI   Evaluation of transcriptional fusions with green fluorescent
     protein versus luciferase as reporters in bacterial mutagenicity tests.

L3   ANSWER 4 OF 15  BIOSIS  COPYRIGHT 2001 BIOSIS
TI   In vitro evaluation of flavopiridol, a novel cell cycle inhibitor, in
     bladder cancer.

L3   ANSWER 5 OF 15  BIOSIS  COPYRIGHT 2001 BIOSIS
TI   A novel strategy of cell targeting based on tissue-specific expression of
     the ecotropic retrovirus receptor gene.

L3   ANSWER 6 OF 15  BIOSIS  COPYRIGHT 2001 BIOSIS      DUPLICATE 4
TI   Identification of fluoroquinolone antibiotics as the main source of
     umuC genotoxicity in native hospital wastewater.

L3   ANSWER 7 OF 15  MEDLINE                                  DUPLICATE 5
TI   Emerging applications of the single cell gel electrophoresis (Comet)
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assay. I. Management of invasive transitional cell human bladder carcinoma. II [redacted]uorescent in situ hybridizati[redacted]omets for the identification [redacted] damaged and repaired DNA sequ[redacted]es in individual cells.

L3 ANSWER 8 OF 15 MEDLINE DUPLICATE 6
TI Purification of a soluble **UmuD**'C complex from Escherichia coli. Cooperative binding of **UmuD**'C to single-stranded DNA.

L3 ANSWER 9 OF 15 CAPLUS COPYRIGHT 2001 ACS
TI Evaluation of **umu** test using chemiluminescence

L3 ANSWER 10 OF 15 BIOSIS COPYRIGHT 2001 BIOSIS
TI **Fluorescence** in situ hybridization deletion mapping at 4p16.3 in bladder cancer cell lines refines the localisation of the critical interval to 30 kb.

L3 ANSWER 11 OF 15 CAPLUS COPYRIGHT 2001 ACS
TI A study of the **umu**-test by a flow-injection fluorometric method

L3 ANSWER 12 OF 15 CAPLUS COPYRIGHT 2001 ACS
TI Genotoxicity of chemical synthetic dyes. Results of **umu** test using Salmonella typhimurium TA1535/pSK1002

L3 ANSWER 13 OF 15 CAPLUS COPYRIGHT 2001 ACS
TI Genotoxicity of the fungicide dichlofluanid in seven assays

L3 ANSWER 14 OF 15 CAPLUS COPYRIGHT 2001 ACS
TI A highly sensitive **umu** test by fluorometric method

L3 ANSWER 15 OF 15 MEDLINE DUPLICATE 7
TI Photoreactivation of UV damage in Escherichia coli uvrA6: lethality is more effectively reversed than either premutagenic lesions or SOS induction.

=> d 9, 14 bib ab

L3 ANSWER 9 OF 15 CAPLUS COPYRIGHT 2001 ACS
AN 1996:434195 CAPLUS
DN 125:78711
TI Evaluation of **umu** test using chemiluminescence
AU Machii, Kenji; Goto, Sumio; Yahagi, Norio; Endo, Osamu; Fukuoka, Masayoshi; Higuchi, Kazue; Iwai, Kazurou; Matsushita, Hidetsuru
CS National Institute of Public Health, Tokyo, 108, Japan
SO Kankyo Kagaku (1996), 6(2), 211-215
CODEN: KKAGEY; ISSN: 0917-2408
DT Journal
LA English
AB A new type of **umu** test using chemiluminescence detection was developed. This method is made up of measurement of chemiluminescence which is generated from the glucose yielded as a enzyme reaction product of .beta.-galactosidase, after several reaction steps. Salmonella typhimurium TA1535/pSK1002 and lactose was used as the tester strain and the substrate to measure .beta.-galactosidase activity as an index of mutagenicity, resp. This method was as sensitive as the **fluorescence** assay previously reported, and was also effective for detection of promutagens.

L3 ANSWER 14 OF 15 CAPLUS COPYRIGHT 2001 ACS
AN 1988:487584 CAPLUS
DN 109:87584
TI A highly sensitive **umu** test by fluorometric method
AU Goto, Sumio; Kato, Yukihiko; Endo, Osamu; Yamauchi, Tsuneyuki; Matsushita,

Hidetsuru
CS Natl. Inst. Public Health, Tokyo, Japan
SO Taiki Osen Gakkaishi (1988), 23(2), 123-7
CODEN: TOSGDC; ISSN: 0386-7064
DT Journal
LA Japanese
AB A highly sensitive **umu** test for mutagenicity assay consisting of the following procedures was developed. Salmonella typhimurium TA1535/pSK1002 soln. (9.7 .mu.L) was added to a 0.33 .mu.L DMSO-contg. test sample and incubated for 2 h at 37.degree. to produce .beta.-galactosidase proportional to the mutagenic activity of the sample.
The bacterial cell walls were broken by a vigorous shaking with a vortex mixer for 10 s after adding Z-buffer soln., SDS soln, and chloroform to 50
.mu.L of the incubated DMSO soln. The sample soln. was mixed with 100 .mu.L 4-methylumbelliferone-.beta.-D-galactosidase, and incubated for 10 min at 37.degree., and finally 4 mL of Sorensen buffer soln. was added. The activity of .beta.-galactosidase was measured from the **fluorescence** intensity of 4-methylumbelliferone produced in the incubation at 355 nm of excitation wavelength and 480 nm of emission wavelength. The reproducibility and sensitivity of the above procedure was tested with 4-nitroquinoline N-oxide. The reproducibility was fairly good (relative std. deviation: 5.6-8.9% for 0-6.6 ng of the test chem.), and the sensitivity was .apprx.300 times higher than that of ordinary **umu** test.

=> d 3 bib ab

L3 ANSWER 3 OF 15 MEDLINE DUPLICATE 3
AN 1999322087 MEDLINE
DN 99322087
TI Evaluation of transcriptional fusions with green **fluorescent** protein versus luciferase as reporters in bacterial mutagenicity tests.
AU Justus T; Thomas S M
CS School of Biological Sciences, The Flinders University of South Australia,
GPO Box 2100, Adelaide, SA 5001, Australia.
SO MUTAGENESIS, (1999 Jul) 14 (4) 351-6.
Journal code: MUG. ISSN: 0267-8357.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199911
EW 19991101
AB A bacterial plasmid was constructed on which the regulatory region of the **umuC** gene of Escherichia coli was fused to the coding sequence of the green **fluorescent** protein gene (gfp) from the jellyfish Aequorea victoria. Escherichia coli AB1157 strains carrying the plasmid emitted **fluorescence** in the presence of mutagens that induce the SOS DNA repair system. Data on tests with nitrosoguanidine, methylmethane sulphonate and UV radiation (254 nm) are presented. Although **fluorescent** detection using this system was not as rapid or sensitive as a similar luminescent equivalent (**umuC**-luxAB), the gfp reporter system was more robust. Escherichia coli **umu** gene induction was also analysed in Salmonella typhimurium TA1537 cells following plasmid transfer and exposure to the same range of mutagens. There was no significant difference in sensitivity between the two species. These preliminary results will provide the basis for development of mutagenicity test systems useful in the testing of complex mixtures, such as environmental samples, and the investigation of physiological parameters influencing spontaneous mutagenesis in bacteria.

=> d 1, 2, 4-8, 10-[redacted] 15 bib ab

L3 ANSWER 1 OF 15 MEDLINE DUPLICATE 1
AN 2001038160 MEDLINE
DN 20485566
TI Regulation of the rulAB mutagenic DNA repair operon of Pseudomonas syringae by UV-B (290 to 320 nanometers) radiation and analysis of rulAB-mediated mutability in vitro and in planta.
AU Kim J J; Sundin G W
CS Department of Plant Pathology and Microbiology, Texas A&M University, College Station, Texas 77843-2132, USA.
SO JOURNAL OF BACTERIOLOGY, (2000 Nov) 182 (21) 6137-44.
Journal code: HH3. ISSN: 0021-9193.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200011
AB The effects of the rulAB operon of Pseudomonas syringae on mutagenic DNA repair and the transcriptional regulation of rulAB following irradiation with UV-B wavelengths were determined. For a rulB::Km insertional mutant constructed in P. syringae pv. syringae B86-17, sensitivity to UV-B irradiation increased and UV mutability decreased by 12- to 14-fold. rulAB-induced UV mutability was also tracked in phyllosphere populations of B86-17 for up to 5 days following plant inoculation. UV mutability to rifampin resistance (Rif(r)) was detected at all sampling points at levels which were significantly greater than in nonirradiated controls. In P. aeruginosa PAO1, the cloned rulAB determinant on pJJK17 conferred a 30-fold increase in survival and a 200-fold increase in mutability following a UV-B dose of 1,900 J m(-2). In comparative studies using defined genetic constructs, we determined that rulAB restored mutability to the Escherichia coli **umuDC** deletion mutant RW120 at a level between those of its homologs mucAB and **umuDC**. Analyses using a rulAB::inaZ transcriptional fusion in Pseudomonas **fluorescens** Pf5 showed that rulAB was rapidly induced after UV-B irradiation, with expression levels peaking at 4 h. At the highest UV-B dose administered, transcriptional activity of the rulAB promoter was elevated as much as 261-fold compared to that of a nonirradiated control. The importance of rulAB for survival of P. syringae in its phyllosphere habitat, coupled with its wide distribution among a broad range of P. syringae genotypes, suggests that this determinant would be appropriate for continued investigations into the ecological ramifications of mutagenic DNA repair.

L3 ANSWER 2 OF 15 MEDLINE DUPLICATE 2
AN 2001089027 MEDLINE
DN 20541771
TI Synthesis and biological activity of alpha-methylene-gamma-lactones as new aroma chemicals.
AU Miyazawa M; Shimabayashi H; Hayashi S; Hashimoto S; Nakamura S; Kosaka H; Kameoka H
CS Department of Applied Chemistry, Faculty of Science and Engineering, Kinki University, Kowakae, Higashiosaka-shi, Osaka 577-8502, Japan.. miyazawa@apch.kindai.ac.jp
SO JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY, (2000 Nov) 48 (11) 5406-10.
Journal code: H3N. ISSN: 0021-8561.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200101
AB Seven kinds of alpha-methylene-gamma-lactones with an alkyl group at the

C-4 position were synthesized according to a previously described method, with yields of [redacted]-34%. These alpha-methylene-ga[redacted]-lactones had characteristic and unique odors. All alpha-meth[redacted]ene-gamma-lactones added a roast-like odor to materials. The antimicrobial effects of alpha-methylene-gamma-lactones were investigated by using a paper disk diffusion method. The results showed the alpha-methylene-gamma-lactones inhibited the growth of three bacteria (Staphylococcus aureus, Escherichia coli, and Pseudomonas **fluorescens**) and two fungi (Saccharomyces cerevisiae and Aspergillus niger). In particular, alpha-methylene-gamma-undecalactone and alpha-methylene-gamma-dodecalactone exhibited potent inhibition of the growth of these microorganisms compared to butyl p-hydroxybenzoate as standard antibiotic. The **umu** test revealed that the alpha-methylene-gamma-lactones suppressed the SOS-inducing activity of three mutagens, furylfuramide, UV irradiation, and Trp-P-1, respectively. The antimicrobial effects and the suppressive effects of SOS induction by alpha-methylene-gamma-lactones had a tendency to intensify as the number of carbons in the side chain increased.

L3 ANSWER 4 OF 15 BIOSIS COPYRIGHT 2001 BIOSIS
AN 1999:306777 BIOSIS
DN PREV199900306777
TI In vitro evaluation of flavopiridol, a novel cell cycle inhibitor, in bladder cancer.
AU Chien, Mark; Astumian, Mary; Liebowitz, David; Rinker-Schaeffer, Carrie; Stadler, Walter M. (1)
CS (1) Section of Hematology/Oncology, University of Chicago, 5841 S. Maryland, Chicago, IL, 60637 USA
SO Cancer Chemotherapy and Pharmacology, (July, 1999) Vol. 44, No. 1, pp. 81-87.
ISSN: 0344-5704.
DT Article
LA English
SL English
AB Purpose: To determine the in vitro effects of flavopiridol on bladder cancer cell lines, immortalized urothelial cell lines, and normal urothelial cells well characterized for defects in p53, pRb, and p16. Methods: Growth inhibition was assessed via an MTT assay and apoptosis via DAPI nuclear staining. Cell cycle analysis was performed via propidium iodide staining and **fluorescent** activated cell sorting (FACS). Multidrug-resistant cells were generated by continuous exposure to doxorubicin. Results: Growth inhibition was not correlated with inactivation of p53, pRb, or p16. All cells experienced G2/M arrest within 24 h of flavopiridol exposure. Modest apoptosis was observed but required 72 h of continuous drug exposure to become evident. There was no obvious synergistic or antagonistic toxicity when flavopiridol was combined with radiotherapy or cisplatin dosed at the IC50 despite the observation that radiotherapy and flavopiridol led to more profound G2/M arrest than either agent alone. Doxorubicin-resistant cells, demonstrated to overexpress the MDR1 multidrug-resistance protein were equally as sensitive to flavopiridol as the parental cells. Conclusions: Flavopiridol is a novel cell cycle inhibitor that may be a useful agent in bladder cancers with tumor suppressor gene alterations and/or multidrug resistance.

L3 ANSWER 5 OF 15 BIOSIS COPYRIGHT 2001 BIOSIS
AN 1999:98051 BIOSIS
DN PREV199900098051
TI A novel strategy of cell targeting based on tissue-specific expression of the ecotropic retrovirus receptor gene.
AU Igarashi, Takehito; Suzuki, Satoru; Takahashi, Minoru; Tamaoki, Taiki; Shimada, Takashi (1)

CS (1) Dep. Biochem. Mol. Biol., Nippon Med. Sch., 1-1-5 Sendagi, Bunkyo-ku, Tokyo 113-8602 [redacted]pan
SO Human Gene Therapy, (Dec. 10, 1998) Vol. 9, No. [redacted]8, pp. 2691-2698.
ISSN: 1043-0342.
DT Article
LA English
AB Gene transfer into specific tissues or cell types is a key technique in the development of gene therapy. Modification of vector particles such that they selectively bind to the target cells has been attempted, but the limitation of this approach is the low transduction efficiency. Here, we show that a two-step gene transfer system can be used for efficient cell targeting. With this strategy, and using a high-titer adenoviral vector containing a tissue-specific promoter, we have engineered a system in which only target cells become susceptible to retrovirus-mediated transduction. In a model experiment, we constructed an adenoviral vector (Ad.AFPEcoRec) containing the ecotropic retrovirus receptor (EcoRec) gene under the control of the alpha-fetoprotein (AFP) promoter. A binding assay showed that after transduction with AD.AFPEcoRec, EcoRec molecules were efficiently expressed in AFP+HepG2 cells, but not in AFP-HeLa and AFP-HLE cells. The EcoRec-expressing HepG2 cells could be stably transduced with ecotropic retroviral vectors, whereas HeLa and HLE cells remained highly resistant to retrovirus-mediated gene transfer. The apparent titer on HepG2 cells was greater than 2 X 105 CFU/ml. Because various tissue-specific promoter/enhancer elements are available, the two-step system could be used as a general strategy for both ex vivo and in vivo targeted gene transfer.

L3 ANSWER 6 OF 15 BIOSIS COPYRIGHT 2001 BIOSIS DUPLICATE 4
AN 1998:188361 BIOSIS
DN PREV199800188361
TI Identification of fluoroquinolone antibiotics as the main source of **umuC** genotoxicity in native hospital wastewater.
AU Hartmann, Andreas (1); Alder, Alfredo C.; Koller, Theo; Widmer, Rosa M.
CS (1) Inst. Hygiene Applied Physiol., Environ. Hygiene Group, ETH Zurich, Clausiusstrasse 24, CH-8092 Zurich Switzerland
SO Environmental Toxicology and Chemistry, (March, 1998) Vol. 17, No. 3, pp. 377-382.
ISSN: 0730-7268.
DT Article
LA English
AB Previous work revealed genotoxic effects in the wastewater of a large university hospital using a bacterial short-term genotoxicity assay, based on a **umuC**::lacZ fusion gene (**umuC** assay). These studies ruled out disinfectants and detergents as main causative agents of the genotoxic effects. This paper focuses on specific hospital-related drugs as the cause. The ratio of theoretical mean wastewater concentrations (derived from consumption data) and lowest observable effect concentrations of selected pharmaceuticals were used to calculate **umuC** induction probabilities. The fluoroquinolone antibiotics Ciproxin and Noroxin showed the highest induction probabilities and exceeded all other investigated drugs by at least one order of magnitude in significance. Antineoplastic drugs, originally thought to be the main effectors, were found to be of marginal significance using the **umuC** assay. These findings were further supported by investigation of urine samples of hospital patients with the **umuC** assay. The determination of ciprofloxacin in native hospital wastewater by reversed-phase high-performance liquid chromatography and **fluorescence** detection revealed concentrations from 3 to 87 mug/L. **umuC** induction factor and ciprofloxacin concentrations in 16 hospital wastewater samples showed a log-linear correlation ($r2 = 0.84$, $p < 0.0001$). These results suggest that the previously measured **umuC** genotoxicity in the wastewater of the hospital under investigation is

caused mainly by fluoroquinolone antibiotics, especially by ciprofloxacin.

On the basis of these findings, the role of the **umuC** assay as a screening tool for wastewater genotoxicity assessment is discussed.

L3 ANSWER 7 OF 15 MEDLINE DUPLICATE 5
AN 1998152087 MEDLINE
DN 98152087
TI Emerging applications of the single cell gel electrophoresis (Comet) assay. I. Management of invasive transitional cell human bladder carcinoma. II. **Fluorescent** in situ hybridization Comets for the identification of damaged and repaired DNA sequences in individual cells.
AU McKelvey-Martin V J; Ho E T; McKeown S R; Johnston S R; McCarthy P J; Rajab N F; Downes C S
CS Cancer and Ageing Research Group, School of Biomedical Sciences, University of Ulster, Coleraine, UK.. v.mckelvey@ulst.ac.uk
SO MUTAGENESIS, (1998 Jan) 13 (1) 1-8.
Journal code: MUG. ISSN: 0267-8357.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199806
EW 19980603
AB ABSTRACT I: Management of invasive transitional cell human bladder carcinoma. The two main treatment options for invasive transitional cell bladder carcinoma are radiotherapy or primary cystectomy with urinary diversion or bladder substitution. Approximately 50% of patients fail to respond to radiotherapy and such patients so treated are disadvantaged by the absence of predictive information regarding their radiosensitivity, since the tumour gains additional time for metastatic spread before cystectomy is performed. The SF2 clonogenic assay, which measures the surviving fraction of tumour cells after 2 Gy X-ray irradiation, is regarded as a good measure of radiosensitivity. However, the assay is time consuming and provides results for only approximately 70% of human tumours. In this paper three bladder transitional cell carcinoma cell lines (HT1376, **UMUC**-3 and RT112) were exposed to X-irradiation (0-10 Gy). We have compared the responses obtained using a clonogenic assay and a more clinically feasible alkaline single cell gel electrophoresis (Comet) assay. A very good inverse correlation was obtained between cell survival (clonogenic assay) and mean tail moment (Comet assay) for the three cell lines, indicating that the Comet assay can be used to predict the radio-responsiveness of individual cell lines. The clinical usefulness of the assay for predicting response to radiotherapy in bladder cancer patients is currently being investigated. ABSTRACT II: **Fluorescent** in situ hybridization (FISH) Comets for the identification of damaged and repaired DNA sequences in individual cells. In mammalian cells the extent of DNA damage is partly and the rate of DNA repair very considerably dependent on DNA position and transcription. This has been established by biochemical techniques which are labour intensive and require large numbers of cells. The Comet assay for overall DNA damage and repair is relatively simple and allows individual cells to be examined. Here we present a protocol for combination of the Comet assay with **fluorescent** in situ hybridization (FISH) using a p53 gene probe which allows specific observation of p53 sequences within DNA comets. Chromosome-specific probes can also be used. Optimization of the FISH/Comet protocol to include automation of the analysis is currently underway to facilitate future application of the technique to study selective DNA damage and repair in defined sequences in single mammalian cells.

L3 ANSWER 8 OF 15 MEDLINE DUPLICATE 6
AN 96210009 MEDLINE

DN 96210009
TI Purification of a soluble **UmuD**'C complex from Escherichia coli. Cooperative binding of **UmuD**'C to single-stranded DNA.
AU Bruck I; Woodgate R; McEntee K; Goodman M F
CS Department of Biological Sciences, Hedco Molecular Biology Laboratories, University of Southern California, Los Angeles 90089-1340, USA.
NC GM21422 (NIGMS)
GM42554 (NIGMS)
AG11398 (NIA)
+
SO JOURNAL OF BIOLOGICAL CHEMISTRY, (1996 May 3) 271 (18) 10767-74.
Journal code: HIV. ISSN: 0021-9258.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; Cancer Journals
EM 199609
AB The Escherichia coli **UmuD**' and **UmuC** proteins play essential roles in SOS-induced mutagenesis. Previous studies investigating the molecular mechanisms of mutagenesis have been hindered by the lack of availability of a soluble **UmuC** protein. We report the extensive purification of a soluble **UmuD**'C complex and its interactions with DNA. The molecular mass of the complex is estimated to be 70 kDa, suggesting that the complex consists of one **UmuC** (46 kDa) and two **UmuD**' (12 kDa) molecules. In contrast to its inability to bind to double-stranded DNA, **UmuD**'C binds cooperatively to single-stranded DNA as measured by agarose gel electrophoresis and confirmed by steady-state **fluorescence** depolarization. A Hill coefficient, n = 3, characterizes the binding of **UmuD**'C to M13 DNA and to a 600 nucleotide DNA oligomer, suggesting that at least three protein complexes may interact cooperatively when binding to DNA. The apparent equilibrium binding constant of **UmuD**'C to single-stranded DNA is approximately 300 nM. Binding of the complex to a short, 80 nucleotide, DNA oligonucleotide was detectable by **fluorescence** depolarization, but it did not appear to be cooperative. Binding of **UmuD**'C to single-stranded M13 DNA causes an acceleration of the protein-DNA complex, suggesting that the longer DNA may undergo compaction. The **UmuD**'C complex associates with RecA-coated DNA, and the **UmuD**'C complex remains bound to DNA in the presence of RecA.

L3 ANSWER 10 OF 15 BIOSIS COPYRIGHT 2001 BIOSIS
AN 1996:563160 BIOSIS
DN PREV199799292516
TI **Fluorescence** in situ hybridization deletion mapping at 4p16.3 in bladder cancer cell lines refines the localisation of the critical interval to 30 kb.
AU Bell, Sandra M.; Zuo, Jian; Myers, Richard M.; Knowles, Margaret A. (1)
CS (1) Mol. Genet. Lab., Marie Curie Res. Inst., The Chart, Oxted, Surrey RH8 0TL UK
SO Genes Chromosomes & Cancer, (1996) Vol. 17, No. 2, pp. 108-117.
ISSN: 1045-2257.
DT Article
LA English
AB An allelotype analysis of transitional cell carcinoma of the bladder identified loss of heterozygosity (LOH) on chromosome arm 4p in 22% of tumours. In a more detailed LOH study of 178 bladder carcinomas, a 750 kb common region of deletion was identified between the markers D4S43 and D4S127 just telomeric to the Huntington disease locus. To refine this region of deletion at 4p 1 6.3, we have carried out detailed **fluorescence** in situ hybridization (FISH) analysis of 12 bladder cancer cell lines by using a chromosome 4 centromeric probe combined with a series of cosmid probes from contigs spanning the 750 kb region of

deletion. A common 30 kb region of deletion was identified at 4p 16.3 in over one-third of the bladder cancer cell lines analysed. The present study has refined the localization of the critical region of deletion from 750 kb to approximately 30 kb, providing a precise starting point for positional cloning of the gene(s) involved in bladder cancer from within a very gene-rich region on chromosome band 4p 16.3. This study demonstrates that FISH can be used for fine deletion mapping of potential tumour suppressor gene regions. The utilization of FISH analysis to map chromosomal deletions should facilitate positional cloning of other genes as bacterial artificial chromosome (BAC) and yeast artificial chromosome (YAC) contigs of the human genome are established.

L3 ANSWER 11 OF 15 CAPLUS COPYRIGHT 2001 ACS
AN 1996:91482 CAPLUS
DN 124:138016
TI A study of the **umu**-test by a flow-injection fluorometric method
AU Machi, Kenji; Yahagi, Norio; Goto, Sumio; Endo, Osamu; Mineki, Shigeru; Tanabe, Kiyoshi; Fukai, Fumio; Katayama, Takashi; Matsushita, Hidetsuru
CS Natl. Inst. Public Health, Tokyo, 108, Japan
SO Kankyo Kagaku (1995), 5(4), 835-9
CODEN: KKAGEY; ISSN: 0917-2408
DT Journal
LA Japanese
AB In order to develop a sensitive and automatic detn. method of the .beta.-galactosidase activity in the **umu**-test, a flow-injection fluorometric system has been applied. In this system, .beta.-galactosidase induced by **umu**-test in the Salmonella typhimurium strain TAI535/pSK1002 was reacted with 4-methylumbelliferyl-.beta.-D-galactopyranoside (4MUG) as a substrate. The activity was measured as the **fluorescence** intensity of 4-methylumbelliferon which was the reaction product. Detectability of this method was confirmed by measured of the dose response relationship using 4 mutagens: 4-nitroquinoline N-oxide (4NQO), benzo[a]pyrene (BaP), 2-aminoanthracene (2AA) and 2-(2-furyl)-3-(5-nitro-2-furyl)acrylamide (AF2).

L3 ANSWER 12 OF 15 CAPLUS COPYRIGHT 2001 ACS
AN 1994:291825 CAPLUS
DN 120:291825
TI Genotoxicity of chemical synthetic dyes. Results of **umu** test using Salmonella typhimurium TA1535/pSK1002
AU Nakamura, S.; Kosaka, H.; Ugawa, M.
CS Osaka Prefect. Inst. Public Health, Osaka, 537, Japan
SO Hen'igensei Shiken (1993), 2(3), 162-74
CODEN: HESHEI; ISSN: 0917-5768
DT Journal
LA Japanese
AB The genotoxicity of 241 synthetic dyes was investigated using **umu** test using Salmonella typhimurium TA1535/pSK 1002. The samples showing .beta.-galactosidase activity more than 1.5 fold over the background level were defined as genotoxic. A clear dose-response relation was obsd. between the dose and **umu** gene expression was obsd. in case of 20 dyes.

L3 ANSWER 13 OF 15 CAPLUS COPYRIGHT 2001 ACS
AN 1991:76811 CAPLUS
DN 114:76811
TI Genotoxicity of the fungicide dichlofluanid in seven assays
AU Heil, J.; Reifferscheid, G.; Hellmich, D.; Hergenroeder, M.; Zahn, R. K.
CS Dep. Environ. Mol. Genotoxic., Johannes Gutenberg Univ., Mainz, D-6500, Fed. Rep. Ger.
SO Environ. Mol. Mutagen. (1991), 17(1), 20-6
CODEN: EMMUEG; ISSN: 0893-6692
DT Journal

LA English
AB Seven different endpoints for detection of genotoxicity were used to demonstrate the DNA-altering properties of dichlofluanid, a fungicide commonly used in viticulture pest control. Each endpoint (DNA synthesis inhibition test, alk. viscosimetry, **umu** test, alk. filter elution, **fluorescence** anal. of DNA unwinding test, 32P-postlabeling, and electron microscopy) shows clear evidence of genotoxicity. These data indicate that application of the fungicide dichlofluanid may be mutagenic and/or carcinogenic for exposed humans.

L3 ANSWER 15 OF 15 MEDLINE DUPLICATE 7
AN 85213580 MEDLINE
DN 85213580
TI Photoreactivation of UV damage in Escherichia coli uvrA6: lethality is more effectively reversed than either premutagenic lesions or SOS induction.
AU Yamamoto K; Shinagawa H; Ohnishi T
SO MUTATION RESEARCH, (1985 Jul) 146 (1) 33-42.
Journal code: NNA. ISSN: 0027-5107.
CY Netherlands
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; Cancer Journals
EM 198509
AB The effect of cyclobutyl pyrimidine dimers on cytotoxicity, induction of synthesis of the RecA and **UmuC** proteins, and mutagenesis was studied in Escherichia coli uvrA6 cells possessing excess amounts of photoreactivating enzyme. Exposure of 254 nm ultraviolet-irradiated (10 J/m2) cells to radiation from daylight **fluorescent** lamps reduced the amounts of thymine-containing dimers in a photoreactivating fluence-dependent manner, up to about 90% reduction at 5 min exposure. Of the lethal ultraviolet damage, 85% was photoreactivable (i.e. cyclobutyl pyrimidine dimers) and 15% was non-photoreactivable. An incident fluence of 1 J/m2 resulted in approximately a 5-fold increase in the synthesis of the RecA and **UmuC** proteins, as compared to the spontaneous level. If the UV-irradiated cell suspensions were illuminated with a **fluorescent** lamp at a dose which resulted in the full photoreactivation of viability, the yields of both proteins were reduced to 60% of the non-photoreactivated control cells. Furthermore, photoreactivation was shown to be more effective in the repair of lethal damage than in the repair of premutational damage. These experiments suggest that, among lethal damages, non-photoreactivable damage plays a more important role in both induction of the SOS functions and mutagenesis in uvrA6 cells than do cyclobutyl pyrimidine dimers.

=> d 3, 9, 14 ti so

L3 ANSWER 3 OF 15 MEDLINE DUPLICATE 3
TI Evaluation of transcriptional fusions with green **fluorescent** protein versus luciferase as reporters in bacterial mutagenicity tests.
SO MUTAGENESIS, (1999 Jul) 14 (4) 351-6.
Journal code: MUG. ISSN: 0267-8357.

L3 ANSWER 9 OF 15 CAPLUS COPYRIGHT 2001 ACS
TI Evaluation of **umu** test using chemiluminescence
SO Kankyo Kagaku (1996), 6(2), 211-215
CODEN: KKAGEY; ISSN: 0917-2408

L3 ANSWER 14 OF 15 CAPLUS COPYRIGHT 2001 ACS
TI A highly sensitive **umu** test by fluorometric method
SO Taiki Osen Gakkaishi (1988), 23(2), 123-7
CODEN: TOSGDC; ISSN: 0386-7064

=> file jicst-eplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	32.38	32.53

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-2.94	-2.94

FILE 'JICST-EPLUS' ENTERED AT 13:05:29 ON 29 MAR 2001

FILE COVERS 1985 TO 19 MAR 2001 (20010319/ED)

THE JICST-EPLUS FILE HAS BEEN RELOADED TO REFLECT THE 1999 CONTROLLED TERM (/CT) THESAURUS RELOAD.

=> s UMU?

L4 132 UMU?

=> s l4 and fluorescen?

36625 FLUORESCEN?
L5 2 L4 AND FLUORESCEN?

=> d 1-2 ti

L5 ANSWER 1 OF 2 JICST-EPlus COPYRIGHT 2001 JST
TI Evaluation of **umu** Test using Chemiluminescence.

L5 ANSWER 2 OF 2 JICST-EPlus COPYRIGHT 2001 JST
TI A highly sensitive **umu** test by fluorometric method.

=> d 1 bib ab

L5 ANSWER 1 OF 2 JICST-EPlus COPYRIGHT 2001 JST
AN 960541650 JICST-EPlus
TI Evaluation of **umu** Test using Chemiluminescence.
AU MACHII K; GOTO S; YAHAGI N; ENDO O
FUKUOKA M
HIGUCHI K; IWAI K
MATSUSHITA H
CS National Inst. Public Health, Tokyo
Meiden Co. Ltd., Tokyo
Japan Anti-Tuberculosis Assoc., Tokyo
Univ. Shizuoka, Shizuoka
SO Kankyo Kagaku (Journal of Environmental Chemistry), (1996) vol. 6, no. 2, pp. 211-215. Journal Code: L1101A (Fig. 4, Tbl. 1, Ref. 9)
ISSN: 0917-2408
CY Japan
DT Journal; Article
LA English
STA New
AB A new type of **umu** test using chemiluminescence detection was developed. This method is made up of measurement of chemiluminescence which is generated from the glucose yielded as a enzyme reaction product of .BETA.-galactosidase, after several reaction steps. Salmonella typhimurium TA1535/pSK1002 and lactose was used as the tester strain and the substrate to measure .BETA.-galactosidase activity as an index of mutagenicity, respectively. This method was as sensitive as the

fluorescence assay preciously reported, and was also effective for detection of p[redacted]utagens. (author abst.)

=> d 1 ti so

L5 ANSWER 1 OF 2 JICST-EPlus COPYRIGHT 2001 JST
TI Evaluation of **umu** Test using Chemiluminescence.
SO Kankyo Kagaku (Journal of Environmental Chemistry), (1996) vol. 6, no. 2, pp. 211-215. Journal Code: L1101A (Fig. 4, Tbl. 1, Ref. 9)
ISSN: 0917-2408

=> d 2 bib ab

L5 ANSWER 2 OF 2 JICST-EPlus COPYRIGHT 2001 JST
AN 880375079 JICST-EPlus
TI A highly sensitive **umu** test by fluorometric method.
AU GOTO SUMIO; ENDO OSAMU; YAMAUCHI TSUNEYUKI; MATSUSHITA HIDETSURU KATO YUKIHIKO
CS Inst. of Public Health
Canon Inc.
SO Taiki Osen Gakkaishi (Journal of Japan Society of Air Pollution), (1988) vol. 23, no. 2, pp. 123-127. Journal Code: S0850A (Fig. 4, Tbl. 1, Ref. 5)
CODEN: TOSGDC; ISSN: 0386-7064
CY Japan
DT Journal; Article
LA Japanese
STA New
AB A highly sensitive **umu** test for mutagenicity assay is developed. This method consists of the following procedures. Salmonella typhimurium TA1535/pSK1002 solution (9.7.MU.l) is added to dimethylsulfoxide solution (0.33.MU.l) and incubated at 37.DEG.C for 2hrs in order to produce .BETA.-galactosidase in proportion with the mutagenic activity of the test
chemical added. Cell walls of the bacteria are broken by a vigorous shaking with a voltex mixer for 10sec after adding Z-buffer solution (100.MU.l), SDS solution (10.MU.l) and chloroform (10.MU.l) to the incubated 50.MU.l of the solution, mixed with 100.MU.l of 4-methylumbelliferone-.BETA.-D-galactosidase, and incubated at 37.DEG.C for 10min, and finally added 4ml of Sorensen buffer solution. Activity of .BETA.-galactosidase is measured from the **fluorescence** intensity of 4-methylumbelliferone produced in the above incubation, in the measurement conditions of 355nm for excitation wavelength and 480nm for emission wavelength. Reproducibility and sensitivity of the test method was tested with 4-nitroquinoline-N-oxide. It was found that the reproducibility was fairly good (coefficient of variation: 5.6% to 8.9% for 0 to 6.6ng of the test chemical), and the sensitivity was about 300 times higher than that of the ordinary **umu** test.(author abst.)

=> file medline biosis caplus jicst-eplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	4.65	37.18

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-2.94

FILE 'MEDLINE' ENTERED AT 13:06:52 ON 29 MAR 2001

FILE 'BIOSIS' ENTERED AT 13:06:52 ON 29 MAR 2001
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FILE 'JICST-EPLUS' ENTERED AT 13:06:52 ON 29 MAR 2001
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=> s fluorescen? (9a) mutagen?

L6 579 FLUORESCEN? (9A) MUTAGEN?

=> s l6 (9a) (fusion or link?)

L7 16 L6 (9A) (FUSION OR LINK?)

=> dup rem l7

PROCESSING COMPLETED FOR L7
L8 10 DUP REM L7 (6 DUPLICATES REMOVED)

=> d 1-10 ti

L8 ANSWER 1 OF 10 CAPLUS COPYRIGHT 2001 ACS
TI Use of green fluorescent protein/Flp recombinase fusion protein and flow cytometric sorting to enrich for cells undergoing Flp-mediated recombination

L8 ANSWER 2 OF 10 MEDLINE DUPLICATE 1
TI Immuno-capture differential display method (IDDM) for the detection of environmentally induced promoters in rhizobacteria.

L8 ANSWER 3 OF 10 MEDLINE DUPLICATE 2
TI Hydrophobic interactions mediate binding of the glycine receptor beta-subunit to gephyrin.

L8 ANSWER 4 OF 10 CAPLUS COPYRIGHT 2001 ACS
TI Evaluation of transcriptional fusions with green fluorescent protein versus luciferase as reporters in bacterial mutagenicity tests

L8 ANSWER 5 OF 10 MEDLINE DUPLICATE 3
TI Characterization of a nuclear deformed epidermal autoregulatory factor-1 (DEAF-1)-related (NUDR) transcriptional regulator protein.

L8 ANSWER 6 OF 10 CAPLUS COPYRIGHT 2001 ACS
TI Green fluorescent protein GFP mutants with increased fluorescence intensity, recombinant expression of GFP or fusion proteins, and use for assay of metabolic activity such as kinase activity

L8 ANSWER 7 OF 10 MEDLINE DUPLICATE 4
TI Tobacco smoke is a source of toxic reactive glycation products.

L8 ANSWER 8 OF 10 BIOSIS COPYRIGHT 2001 BIOSIS
TI Rod cGMP-phosphodiesterase gamma-subunit: Structure-function relationships.

L8 ANSWER 9 OF 10 MEDLINE DUPLICATE 5
TI Characterization of the Ca(2+)-triggered conformational transition in troponin C.

L8 ANSWER 10 OF 10 BIOSIS COPYRIGHT 2001 BIOSIS
TI AZOSPIRILLUM-LIPOFERUM AND AZOSPIRILLUM-BRASILENSE SURFACE POLYSACCHARIDE

MUTANTS THAT ARE AFFECTED IN FLOCCULATION.

=> d 4 bib ab

L8 ANSWER 4 OF 10 CAPLUS COPYRIGHT 2001 ACS
AN 1999:492072 CAPLUS
DN 131:268165
TI Evaluation of transcriptional fusions with green fluorescent protein versus luciferase as reporters in bacterial mutagenicity tests
AU Justus, Tamara; Thomas, Susan M.
CS School of Biological Sciences, The Flinders University of South Australia, Adelaide, 5001, Australia
SO Mutagenesis (1999), 14(4), 351-356
CODEN: MUTAEX; ISSN: 0267-8357
PB Oxford University Press
DT Journal
LA English
AB A bacterial plasmid was constructed on which the regulatory region of the umuC gene of Escherichia coli was fused to the coding sequence of the green fluorescent protein gene (gfp) from the jellyfish Aequorea victoria.
E. coli AB1157 strains carrying the plasmid emitted fluorescence in the presence of mutagens that induce the SOS DNA repair system. Data on tests with nitrosoguanidine, methylmethane sulfonate, and UV radiation (254 nm) are presented. Although fluorescent detection using this system was not as rapid or sensitive as a similar luminescent equiv. (umuC-luxAB), the gfp reporter system was more robust. E. coli umu gene induction was also analyzed in Salmonella typhimurium TA1537 cells following plasmid transfer and exposure to the same range of mutagens. There was no significant difference in sensitivity between the 2 species. These preliminary results will provide the basis for the development of mutagenicity test systems useful in the testing of complex mixts., such as environmental samples, and the investigation of physiol. parameters influencing spontaneous mutagenesis in bacteria.
RE.CNT 19
RE
(1) Cariello, N; Mutat Res 1998, V414, P95 CAPLUS
(2) Cormack, B; Gene 1996, V173, P33 CAPLUS
(4) Huisman, O; Nature 1981, V290, P797 CAPLUS
(5) Justus, T; Mutat Res 1998, V398, P131 CAPLUS
(6) Marsh, L; J Bacteriol 1985, V162, P155 CAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d 6 bib ab

L8 ANSWER 6 OF 10 CAPLUS COPYRIGHT 2001 ACS
AN 1997:318169 CAPLUS
DN 126:289007
TI Green fluorescent protein GFP mutants with increased fluorescence intensity, recombinant expression of GFP or fusion proteins, and use for assay of metabolic activity such as kinase activity
IN Thastrup, Ole; Tullin, Soeren; Poulsen, Lars Kongsbak; Bjoern, Sara Petersen
PA Novo Nordisk A/s, Den.; Thastrup, Ole; Tullin, Soeren; Poulsen, Lars Kongsbak; Bjoern, Sara Petersen
SO PCT Int. Appl., 46 pp.
CODEN: PIXXD2
DT Patent
LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9711094	A1	19970327	WO 1996-DK51	19960131
	W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, AZ, BY, KG, KZ, RU, TJ, TM				
	RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE				
	CA 2232727	AA	19970327	CA 1996-2232727	19960131
	AU 9644829	A1	19970409	AU 1996-44829	19960131
	EP 851874	A1	19980708	EP 1996-900890	19960131
	EP 851874	B1	19990915		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, SI, LT, LV				
	AT 184613	E	19991015	AT 1996-900890	19960131
	JP 11512441	T2	19991026	JP 1996-512326	19960131
	ES 2139329	T3	20000201	ES 1996-900890	19960131
	US 6172188	B1	20010109	US 1997-819612	19970317
PRAI	DK 1995-1065	19950922			
	WO 1996-DK51	19960131			

AB The present invention relates to fluorescent proteins derived from green fluorescent protein (GFP) or any functional analog thereof, wherein the amino acid in position 1 preceding the chromophore has been mutated to provide an increase of fluorescence intensity. Mutants include F64L, F64T, F64V, F64A, and F64G as well as any of the previous mutants with an addnl. Y66H substitution. Also a variant contg. both F64L and S65T substitutions is included. The GFP variants have increased fluorescence and can be fused with other proteins for use in assays. An example is GFP fusion product with protein kinase. GFP variant genes are useful as reporters to tag organelles or cells, and to measure kinase, dephosphorylation, or other metabolic activities.

=> file uspatfull

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	13.20	50.38
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-1.18	-4.12

FILE 'USPATFULL' ENTERED AT 13:09:02 ON 29 MAR 2001
CA INDEXING COPYRIGHT (C) 2001 AMERICAN CHEMICAL SOCIETY (ACS)

FILE COVERS 1971 TO PATENT PUBLICATION DATE: 27 Mar 2001 (20010327/PD)
FILE LAST UPDATED: 27 Mar 2001 (20010327/ED)
HIGHEST PATENT NUMBER: US6209132
CA INDEXING IS CURRENT THROUGH 27 Mar 2001 (20010327/UPCA)
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 27 Mar 2001 (20010327/PD)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Dec 2000
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Oct 2000

>>> Page images are available for patents from 1/1/1997. Current <<<
>>> week patent text is typically loaded by Thursday morning and <<<
>>> page images are available for display by the end of the day. <<<
>>> Image data for the /FA field are available the following week. <<<

>>> Complete CA file indexing for chemical patents (or equivalents) <<<
>>> is included in file records. A thesaurus is available for the <<<

>>> USPTO Manual of Classifications in the /NCL, /INCL, and /RPCL <<<
>>> fields. This thesaurus includes catchword terms from the <<<
>>> USPTO/MOC subject headings and subheadings. The thesauri are also <<<
>>> available for the WIPO International Patent Classification <<<
>>> (IPC) Manuals, editions 1-6, in the /IC1, /IC2, /IC3, /IC4, <<<
>>> /IC5, and /IC (/IC6) fields, respectively. The thesauri in <<<
>>> the /IC5 and /IC fields include the corresponding catchword <<<
>>> terms from the IPC subject headings and subheadings. <<<

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s UMU? (p) fluorescen?

```
          116 UMU?
        77190 FLUORESCEN?
L9          1 UMU? (P) FLUORESCEN?
```

=> d bib ab

L9 ANSWER 1 OF 1 USPATFULL
AN 91:77705 USPATFULL
TI AZT immunoassays, derivatives, conjugates and antibodies
IN Stenglein, Kenneth J., St. Louis, MO, United States
Murray, Dennis M., Eureka, MO, United States
PA Sigma Chemical Company, St. Louis, MO, United States (U.S. corporation)
PI US 5051361 19910924
AI US 1988-259872 19881019 (7)
DT Utility
EXNAM Primary Examiner: Ceperley, Mary E.
LREP Senniger, Powers, Leavitt & Roedel
CLMN Number of Claims: 20
ECL Exemplary Claim: 2
DRWN No Drawings
LN.CNT 1988
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB This invention relates to a method for the immunoassay of AZT (3'-azido-3'-deoxythymidine), also known as zidovudine, in biological fluids such as serum, semen, plasma and urine, as well as other body fluids. The invention also includes (1) various novel analogs of AZT useful in preparing immunogens for antibodies to AZT and in preparing labeled AZT, (2) immunogens for antibodies to AZT, (3) monoclonal and polylonal antibodies to AZT, (4) labeled AZT analogs and (5) diagnostic test kits for the immunoassay.

=> d kwic

L9 ANSWER 1 OF 1 USPATFULL
DETD . . . The reaction mixture was diluted with 100 ul of MeOH and a portion chromatographed by TLC on silica gel-F 250 **umusing** the solvent system CHCl.sub.3 /MeOH/HOAc (85+15+1). The **fluorescent** band migrating at R.sub.f =0.41 was found to contain the active material. The crude product was rechromatographed over RPF 250 um using the solvent system MeOH/H.sub.2 O/HOAc (33+66+3). The major **fluorescent** band migratingjust above the origin (R.sub.f =0.093) was eluted with MeOH. Immunological activity against AZT was confirmed by a **fluorescence** polarization technique.

=> s fluorescen? (9a) mutagen?

```
        77190 FLUORESCEN?
        16042 MUTAGEN?
```

L10 50 FLUORESCEN? (9A) MUTAGEN?

=> s l6 (9a) (fusion or link?)

77190 FLUORESCEN?
16042 MUTAGEN?
56591 FUSION
452466 LINK?
L11 0 L6 (9A) (FUSION OR LINK?)

=> d l10 1-50 ti

L10 ANSWER 1 OF 50 USPATFULL
TI Method and composition for detecting the presence of a nucleic acid sequence in a sample

L10 ANSWER 2 OF 50 USPATFULL
TI Fluorescent protein sensors for detection of analytes

L10 ANSWER 3 OF 50 USPATFULL
TI Green fluorescent proteins and blue fluorescent proteins

L10 ANSWER 4 OF 50 USPATFULL
TI Monitoring amplification of DNA during PCR

L10 ANSWER 5 OF 50 USPATFULL
TI DNA polymerase having ability to reduce innate selective discrimination against fluorescent dye-labeled dideoxynucleotides

L10 ANSWER 6 OF 50 USPATFULL
TI Fluorescent protein sensors for measuring the pH of a biological sample

L10 ANSWER 7 OF 50 USPATFULL
TI Fluorescent protein sensors for measuring the pH of a biological sample

L10 ANSWER 8 OF 50 USPATFULL
TI Long wavelength engineered fluorescent proteins

L10 ANSWER 9 OF 50 USPATFULL
TI Methods for treatment predicated on the presence of advanced glycosylation endproducts in tobacco and its combustion byproducts

L10 ANSWER 10 OF 50 USPATFULL
TI Electrostatic enzyme biosensor

L10 ANSWER 11 OF 50 USPATFULL
TI Short pulse mid-infrared laser source for surgery

L10 ANSWER 12 OF 50 USPATFULL
TI Long wavelength engineered fluorescent proteins

L10 ANSWER 13 OF 50 USPATFULL
TI Long wavelength engineered fluorescent proteins

L10 ANSWER 14 OF 50 USPATFULL
TI Pseudomonas fluorescens

L10 ANSWER 15 OF 50 USPATFULL
TI Photochromic fluorescent proteins and optical memory storage devices based on fluorescent proteins

L10 ANSWER 16 OF 50 USPATFULL
TI Mutant Aequorea victoria fluorescent proteins having increased cellular fluorescence

L10 ANSWER 17 OF 50 USPATFULL
TI Methods for identifying a mutation in a gene of interest without a phenotypic guide using ES cells

L10 ANSWER 18 OF 50 USPATFULL
TI Fluorescent protein sensors for detection of analytes

L10 ANSWER 19 OF 50 USPATFULL
TI Tandem fluorescent protein constructs

L10 ANSWER 20 OF 50 USPATFULL
TI Method for detection of polynucleotide hybridization

L10 ANSWER 21 OF 50 USPATFULL
TI Process for identification of substances modulating ureI dependent mechanisms of Helicobacter pylori metabolism

L10 ANSWER 22 OF 50 USPATFULL
TI Assays for protein kinases using fluorescent protein substrates

L10 ANSWER 23 OF 50 USPATFULL
TI Solid phase enzyme kinetics screening in microcolonies

L10 ANSWER 24 OF 50 USPATFULL
TI Assays for protein kinases using fluorescent

L10 ANSWER 25 OF 50 USPATFULL
TI Multi-site detection apparatus

L10 ANSWER 26 OF 50 USPATFULL
TI Methods for identifying herbicidal agents that inhibit D1 protease

L10 ANSWER 27 OF 50 USPATFULL
TI Methods for measurement and treatment predicated on the presence of advanced glycosylation endproducts in tobacco and its combustion byproducts

L10 ANSWER 28 OF 50 USPATFULL
TI Biological control of molluscs with dauer larvae of Phasmarhabditis nematodes

L10 ANSWER 29 OF 50 USPATFULL
TI Lubricant soluble fluorescent agent and method for its use in a system for detection of lubricant coatings

L10 ANSWER 30 OF 50 USPATFULL
TI Method and apparatus for removing corneal tissue with infrared laser radiation

L10 ANSWER 31 OF 50 USPATFULL
TI Biomolecular optical sensors

L10 ANSWER 32 OF 50 USPATFULL
TI Method for making variant secreted proteins with altered properties

L10 ANSWER 33 OF 50 USPATFULL
TI Staphylokinase derivatives

L10 ANSWER 34 OF 50 USPATFULL
TI Multi site molecule detection method

L10 ANSWER 35 OF 50 USPATFULL
TI Lubricant soluble fluorescent agent and method for its use in a system for detection of lubricant coatings

L10 ANSWER 36 OF 50 USPATFULL

TI Piezoelectric device for detection of polynucleotide hybridization

L10 ANSWER 37 OF 50 USPATFULL
TI Chemical functionalization of surfaces

L10 ANSWER 38 OF 50 USPATFULL
TI Multi-site detection apparatus

L10 ANSWER 39 OF 50 USPATFULL
TI Biological control of molluscs with nematodes and bacteria that support growth and pathogenicity of nematodes

L10 ANSWER 40 OF 50 USPATFULL
TI One-step free fatty acid determination method

L10 ANSWER 41 OF 50 USPATFULL
TI Identification of plant-responsive genes of bacteria

L10 ANSWER 42 OF 50 USPATFULL
TI Method for making variant secreted proteins with altered properties

L10 ANSWER 43 OF 50 USPATFULL
TI Antiprotozoan method

L10 ANSWER 44 OF 50 USPATFULL
TI Antiviral method, agents and apparatus

L10 ANSWER 45 OF 50 USPATFULL
TI Method and test kit for detecting a trichothecene using novel monoclonal antibodies

L10 ANSWER 46 OF 50 USPATFULL
TI Method and apparatus for sorting particles

L10 ANSWER 47 OF 50 USPATFULL
TI Process for determining metabolism and growth of cells under various conditions

L10 ANSWER 48 OF 50 USPATFULL
TI Process for measuring microbiologically active material

L10 ANSWER 49 OF 50 USPATFULL
TI Process for isolating microbiologically active material

L10 ANSWER 50 OF 50 USPATFULL
TI Fluorometric method of quantitative cell mutagenesis

=> d 50 bib ab

L11 HAS NO ANSWERS
'50 ' IS NOT A VALID SEARCH STATUS KEYWORD
Search status keywords:
NONE ---- Display only the number of postings.
STATUS -- Display statistics of the search.
ENTER SEARCH STATUS OPTION (NONE), STATUS, OR ?:end

=> d l10 50 bib ab

L10 ANSWER 50 OF 50 USPATFULL
AN 82:39991 USPATFULL
TI Fluorometric method of quantitative cell mutagenesis
IN Dolbeare, Frank A., Livermore, CA, United States

PA The United States of America as represented by the United States Department of Energy, Washington, DC, United States (U.S. government)
PI US 4345027 19820817
AI US 1980-215767 19801212 (6)
DT Utility
EXNAM Primary Examiner: Smith, William F.
LREP Marnock, Marvin J.; Gaither, Roger S.; Besha, Richard G.
CLMN Number of Claims: 10
ECL Exemplary Claim: 1,8
DRWN No Drawings
LN.CNT 393
AB A method for assaying a cell culture for mutagenesis is described. A cell culture is stained first with a histochemical stain, and then a fluorescent stain. Normal cells in the culture are stained by both the histochemical and fluorescent stains, while abnormal cells are stained only by the fluorescent stain. The two stains are chosen so that the histochemical stain absorbs the wavelengths that the fluorescent stain emits. After the counterstained culture is subjected to exciting light, the fluorescence from the abnormal cells is detected.